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data related to the terminal.

1	What is	s claimed is:
2	)!	A method for targeting virtual advertisements at a user's terminal, comprising:
3		assigning at least one virtual advertisement spot to a program;
4		assigning one or more virtual objects to the at least one virtual advertisement
5	spot;	
6		generating a retrieval plan; and
7		providing the retrieval plan to the terminal, wherein the retrieval plan directs the
8	termina	al to select one of the one or more virtual objects.

- 2. The method of claim 1, further comprising: defining one or more target categories; and for one or more of the target categories, designating one or more groups, wherein a group is based on common viewer characteristics.
- groups, comprising:

  generating group assignment rules;

  providing the group assignment rules to the terminal;

  storing the group assignment rules at the terminal; and

  determining one or more group assignments based on the group assignment rules and

The method of claim 2, further comprising assigning the terminal to one or more of the

4. The method of claim 3, wherein the data related to the terminal includes one or more of Area of Dominant Influence (ADI), zip code+4, demographic data and programs watched data, virtual objects viewed, on-screen questionnaires and characteristics imported from marketing databases, the group assignments being updated to reflect changes in the ADI, zip

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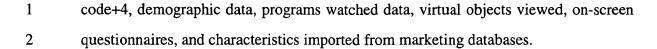
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- 5. The method of claim 2, wherein generating the retrieval plan comprises:
  designating a unique group mask for one or more of the groups; and
  assigning one or more of the groups to one of the virtual objects, wherein the group
  mask indicates whether the terminal displays a particular virtual object.
  - 6. The method of claim 2, wherein the retrieval plan and the group assignment rules are sent periodically to the terminal.
    - A method of targeting virtual objects, comprising:

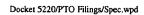
      providing a program containing one or more virtual object locations;

      providing virtual objects for one or more of the virtual object locations;

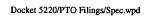
      providing alternate virtual objects for one or more of the virtual object locations; and

      generating a retrieval plan at one or more viewer's terminals, wherein the retrieval plan

      designates which of the one or more virtual object locations displays an alternate virtual object.
    - 8. The method of claim 7, wherein the program is a television program.
    - 9. The method of claim 7, wherein the program is one of an advertisement, an electronic program guide, and an Internet web page.
  - 10. The method of claim 7, wherein at least one of the virtual object locations is fixed in position across frames of the program.

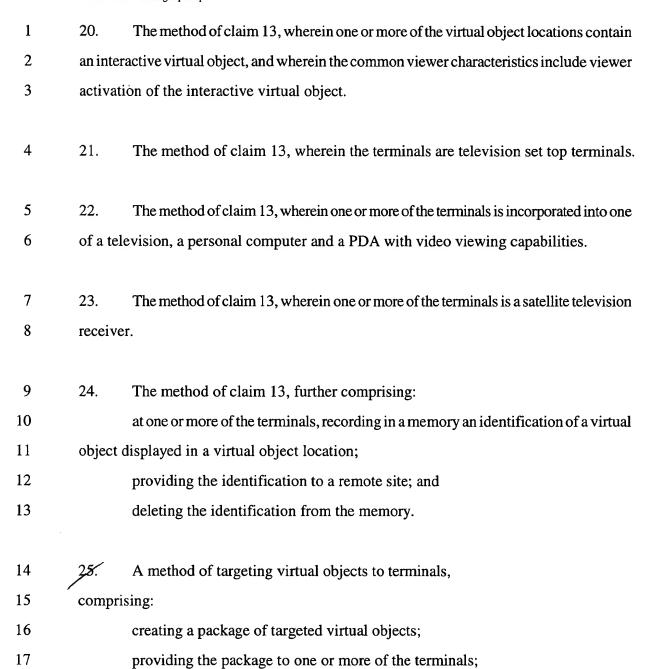


1	11.	The method of claim 7, wherein at least one of the virtual object locations moves
2	spatial	ly in the program with time.
3	12.	The method of claim 7, wherein at least one of the virtual objects is interactive
4	13.	The method of claim 7, wherein the program is broadcast to the terminals, further
5	comprising:	
6		creating categories of virtual objects and programs;
7		within one or more of the categories, defining one or more groups;
8		generating group assignment rules based on common viewer characteristics;
9		providing the group assignment rules to one or more of the terminals;
10		storing the group assignment rules in one or more of the terminals;
11		using the stored group assignment rules, assigning one or more of the terminals to one
12	or mor	re of the groups; and
13		comparing the retrieval plan to the group assignments to determine virtual objects to
14	display	in the one or more virtual object locations.
15	14.	The method of claim 13, wherein generating the retrieval plan, comprises:
16		assigning the virtual objects to the one or more virtual object locations;
17		assigning the alternate virtual objects to at least one of the one or more virtual object
18	locations;	
19		assigning a group to one or more of the virtual objects and the alternate virtual objects;
20	and	
21		creating a group mask assignment, wherein the group mask assignment is used at
22	the ter	minals to compare the retrieval plan to the assignments of the terminals to the
23	groups	•



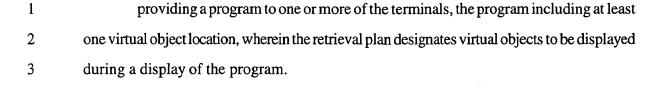
I	15.	The method of claim 14, wherein assigning the group to the virtual objects and the	
2	alternate virtual objects, comprises:		
3		ranking one or more programs based on the categories of targeted virtual objects and	
4	a first p	percentage of total viewers who may view the one or more programs;	
5		ranking the targeted virtual objects based on a second percentage of the total viewers;	
6		determining, for the one or more ranked programs and the categories of targeted	
7	virtual objects, targeted virtual objects with overall highest rankings, based on the first and the		
8	second percentages;		
9		assigning targeted virtual objects with the overall highest rankings to be displayed as	
10	the virtual objects; and		
11		assigning targeted advertisements with lower overall rankings to be displayed as the	
12	alternat	te virtual objects.	
13	16.	The method of claim 13, wherein the common viewer characteristics include viewer	
14	demogr	raphic information.	
15	17.	The method of claim 13, wherein the common viewer characteristics include viewer-	
16	entered	information.	
17	18.	The method of claim 13, wherein the common viewer characteristics include programs	
18	watche	d data.	
19	19.	The method of claim 13, wherein the common viewer characteristics include virtual	
20	objects watched data.		

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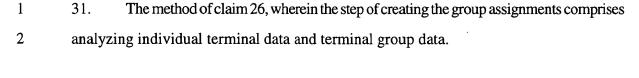


storing the retrieval plan at one or more of the terminals; and

generating a retrieval plan;



- 26. The method of claim 25, further comprising:
  generating group assignment rules;
  storing the group assignment rules at one or more of the terminals; and
  creating group assignments by assigning one or more of the terminals to one or more
  groups based on the group assignment rules.
- 27. The method of claim 26, further comprising at one or more of the terminals receiving the program, retrieving one of the targeted virtual objects for display in the at least one virtual object location.
- 28. The method of claim 27, wherein the retrieval step, comprises: comparing the group assignments to the retrieval plan; and selecting a virtual object for display based on the comparison.
- 29. The method of claim 26, wherein one or more of at least one virtual object locations contains an interactive virtual object, further comprising:
- receiving a selection of the interactive virtual object; and
  linking a terminal selecting the interactive virtual object to an alternate
  program.
- 20 30. The method of claim 29, wherein the alternative program comprises an Internet web site.



- 32. The method of claim 31, wherein the individual terminal data comprises one or more of viewer demographic data, programs watched data, virtual objects viewed data, on-screen questionnaires, and characteristics imported from marketing databases, and wherein the terminal group data, comprises one or more of ADI, zip code, and geographical data.
- 33. The method of claim 31, wherein one or more of the terminals comprises a global positioning satellite receiver, further comprising:

determining a geographical location of one or more of the terminals; and storing the geographical location of the one or more of the terminals as individual terminal data.

A method for assigning targeted virtual objects to virtual object locations in one or more programs, comprising:

identifying the one or more programs to carry the targeted virtual objects;

assigning the targeted virtual objects to target categories;

ranking one or more of the programs based on the target categories and a first percentage of total viewers in one or more groups of viewers;

ranking the targeted virtual objects based on a second percentage of total viewers in the one or more groups of viewers;

determining, for one or more of the programs and one or more of the target categories, targeted virtual objects with overall highest rankings, based on the first and the second percentages;

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or more terminals.

1		assigning one or more targeted virtual objects as default virtual objects;
2		assigning one or more targeted virtual objects as alternate virtual objects; and
3		assigning the default virtual objects and the alternate virtual objects to the virtual object
4	location	ns.
5	35.	The method of claim 34, wherein the first and second percentages of total
6	viewers are based on viewer demographic information including zip code, ADI and	
7	geographical data.	
8	36.	The method of claim 34, wherein assigning the default virtual objects and the alternate
9	virtual objects, comprises:	
10		dividing one or more target categories into groups;
11		generating group assignment rules that are used to assign or more of the terminals to
12	one or	more of the groups;
13		storing the group assignment rules at one or more of the terminals, wherein processors
14	at the one or more terminals assign the terminals to one or more groups using the group	
15	assignment rules;	
16		generating a retrieval plan; and
17		providing the retrieval plan to one or more of the terminals receiving the
18	progran	ms at the one or more terminals, comparing the group assignments to the retrieval
19	plan.	
20	37.	The method of claim 36, further comprising:
21		revising the retrieval plan and the group assignment rules; and

providing the revised retrieval plan and the revised group assignment rules to the one

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- 1 38. The method of claim 36, wherein the retrieval plan and the group assignment rules are provided over an Internet.
- 3 39. The method of claim 34, wherein the package of targeted virtual objects is provided to a terminal over an Internet.
- The method of claim 34, wherein the package of targeted virtual objects is provided to a terminal using one of a public switched telephone network, a cable television network, a satellite television network, a local area network and a fiber optic network.

9 41. The method of claim 34, wherein virtual objects are provided with program content.

- 42. The method of claim 34, wherein virtual objects are provided independently of program content.
- A method for targeting virtual objects to subscribers in a television program delivery system, comprising:

gathering information related to one or more of subscribers, wherein individual subscriber's information is gathered and stored at individual subscriber's terminals;

- analyzing the gathered information to determine a subscriber profile for one or more of the subscribers;
- correlating the subscriber profile with categories of virtual objects, wherein one or more virtual object categories includes at least one virtual object; and selecting from the correlated virtual object for display based on the correlation.
- 44. The method of claim 43, wherein the individual subscriber's information includes virtual objects watched data.

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- 1 45. The method of claim 43, further comprising defining virtual object locations, wherein 2 the virtual objects are displayed in the virtual object locations.
- 3 46. The method of claim 45, wherein the virtual object locations are defined in a television 4 program.
- 5 47. The method of claim 45, wherein the virtual object locations are defined in an advertisement provided over a television delivery system.
  - An apparatus that targets virtual objects for display at a viewer reception site, comprising:
  - a virtual object location identifier that identifies virtual object locations in a video;
  - a virtual object selector coupled to the virtual object location identifier that selects one or more virtual objects to display in one or more of the identified virtual object locations;

a targeted virtual object manager coupled to the virtual object selector, wherein the targeted virtual object manager determines virtual objects from the selected one or more virtual objects to be displayed in one or more of the virtual object locations; and

a group assignment rules generator that provides group assignment rules for classifying the reception site.

49. The apparatus of claim 48, wherein the determined virtual objects are determined based on the group assignment rules and a personal profile of a viewer of the reception site, and wherein the personal profile is stored in a memory of the reception site.

1	50.	The apparatus of claim 49, wherein the personal profile is based on one or more of
2	program	as watched data, virtual objects viewed data and other viewer data collected and stored
3	at the re	eception site.

A routine, executable on a general purpose computer, for targeting virtual objects to an individual viewer, the routine, comprising:

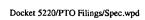
a group definition routine that defines groups based on common viewer characteristics; a group assignment routine that assigns individual viewer terminals to one or more of the groups;

a virtual object location routine that determines available virtual object locations in a program; and

a retrieval plan generator that generates a plan for retrieving one or more virtual objects for display in one or more of the available virtual object locations, wherein the retrieval plan is generated based on the group definitions.

- A method for targeting virtual objects to viewers, comprising:
  recognizing a virtual object location in a program;
  receiving one or more virtual objects; and
  generating a retrieval plan that directs viewers' terminals to insert one or more of the
- 53. A method for targeting virtual objects to locations in a program, comprising: at a local viewer terminal, identifying virtual objects for insertion into one or more of the locations;
  - generating an individual viewer profile; and

virtual objects into one or more of the virtual object locations.



1		providing one or more of the identified virtual objects for insertion based on the
2	indivi	dual viewer profile.
3	<i>5</i> 4.	A method for targeting virtual objects to terminals, comprising:
4		identifying the terminals based on characteristics of individual terminals;
5		identifying virtual object locations in programs for display at the terminals; and
6		targeting the virtual objects for insertion into the virtual object locations based
7	on the identities of the terminals.	
8	55.	The method of claim 54, further comprising displaying multiple virtual objects
9	simul	taneously
10	56.	The method of claim 54, wherein one or more of the virtual objects are interactive
11	virtua	l objects, further comprising:
12		receiving a selection of one or more of the interactive virtual objects from one or more
13	of the	terminals;
14		linking the selecting terminal to a remote location; and
15		displaying content from the remote location at the selecting terminal.
16	57.	The method of claim 56, wherein the remote location is an operations center and the
17	conte	nt is an additional program.
18	58.	The method of claim 56, wherein the remote location is an Internet web site and the
19	conte	nt is one or more web pages.

A terminal in a television program delivery system that targets virtual objects for display to a viewer of the terminal, comprising:

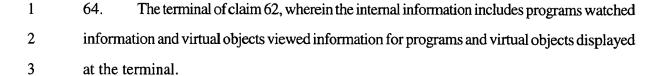
a receiver that receives programs containing virtual object locations, virtual objects,

and a virtual object retrieval plan;

a memory that stores the virtual object retrieval plan; and

a processor that executes a group assignment routine to assign the terminal to one or more groups, wherein the groups are defined based on common viewer characteristics, and executes a virtual object assignment routine that assigns virtual objects to the virtual object locations based on a comparison of the retrieval plan and the group assignments.

- 60. The terminal of claim 59, wherein the group assignment rules include an initial set of group assignment rules stored in the memory.
- 61. The terminal of claim 59, wherein the receiver receives and the memory stores group assignment rules, and wherein the processor uses the group assignment rules and data related to the terminal to execute the group assignment routine.
  - 62. The terminal of claim 61, wherein the data related to the terminal is stored in the memory, the data related to the terminal including internal information generated internally at the terminal and external information generated external to the terminal and provided to the terminal.
    - 63. The terminal of claim 62, wherein the terminal further comprises a global positioning satellite (GPS) receiver, the GPS receiver determining a location of the terminal, wherein the location is stored in the memory as internal information, and wherein the processor uses the location to determine area of dominant influence and postal code information.

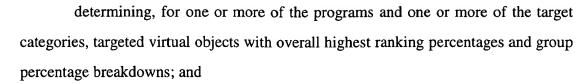


- 65. The terminal of claim 61, wherein the group assignment rules are periodically revised, the memory storing the revised group assignment rules and the processor determining revised group assignments based on the revised group assignment rules.
- The terminal of claim 61, wherein the data related to the terminal is revised, the processor determining revised group assignments based on the revised data related to the terminal.
  - 67. The terminal of claim 61, wherein the processor uses the group assignment rules to derive terminal identifying information based on other information stored at the terminal.
  - 68. A method for assigning targeted virtual objects to virtual object locations in one or more programs, comprising:

identifying the one or more programs to carry the targeted virtual objects; assigning the targeted virtual objects to target categories and to groups within the target categories;

generating virtual object location group percentage breakdowns, wherein the generating step comprises using generic viewing population information to assign the groups to the one or more programs;

creating virtual object ranking percentages based on the generic viewing population information;



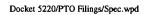
assigning virtual objects to the virtual object locations based on the determined ranking percentages and group percentage breakdowns.

- A method of targeting virtual objects to terminals, comprising:
  identifying virtual objects;

  providing the one or more of the virtual objects to one or more of the terminals;
  generating a retrieval plan;
  storing the retrieval plan at one or more of the terminals; and
  providing a program to one or more of the terminals, the program including at least
  one virtual object location, wherein the retrieval plan designates virtual objects to be displayed
  during a display of the program.
- 70. The method of claim 69, further comprising:
  generating group assignment rules;
  storing the group assignment rules at one or more of the terminals; and
  creating group assignments by assigning one or more of the terminals to one or more
  groups based on the group assignment rules.
- 71. The method of claim 70, wherein the step of generating group assignment rules comprises generating initial group assignment rules, and wherein the step of storing the group assignment rules comprises storing the initial group assignment rules.

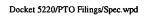
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1	72.	The method of claim 71, wherein the initial group assignment rules are stored at or
2	before	an initial use of a terminal.
3	73.	The method of claim 70, further comprising at one or more of the terminals receiving
4	the prog	gram, retrieving one of the targeted virtual objects for display in the at least one virtual
5	object location.	
6	74.	The method of claim 73, wherein the retrieval step, comprises:
7		comparing the group assignments to the retrieval plan; and
8		selecting a virtual object for display based on the comparison.
		•
9	75.	The method of claim 70, wherein one or more of at least one virtual object locations
10	contain	s an interactive virtual object, further comprising:
11		receiving a selection of the interactive virtual object; and
12		linking a terminal selecting the interactive virtual object to an alternate
13	program	n.
14	76.	The method of claim 70, wherein the group assignment rules are provided to a terminal
15	using o	ne of a public switched telephone network, a cable television network, a satellite
16	televisi	on network, a local area network, a fiber optic network and an Internet.

77. The method of claim 69, wherein the virtual objects are provided to a terminal using one of a public switched telephone network, a cable television network, a satellite television network, a local area network, a fiber optic network and an Internet.



- The method of claim 69, wherein the retrieval plan is provided to a terminal using one
- of a public switched telephone network, a cable television network, a satellite television
- network, a local area network, a fiber optic network and an Internet.